




# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,000	06/22/2001	Shinji Uebayashi	3815/124	3372
22913	7590	03/10/2005	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			HABTE, ZEWDU	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/889,000	<b>Applicant(s)</b>  UEBAYASHI ET AL.	
	<b>Examiner</b> Zewdu Habte	<b>Art Unit</b> 2661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16,17,41 and 42 is/are allowed.
- 6) ☒ Claim(s) 1-15, 18-40, 43-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-15, 18-40, 43-48 are rejected under 35 U.S.C. 102(a) as being anticipated by Christopher (EP 0975184 A1).

As to claims 1, 2, 4, 27, 28, 30, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for judging and a means for assigning the channel). Christopher discloses a communication apparatus illustrated in Fig. 8. Upon receiving request for service (request for channel assignment) step 802 determines if the cellular telephone has the TDD and FDD duplexing schemes (whether a condition exists to make it is possible to assign both a channel for a service area based on a FDD and a TDD method) (column 8, lines 51-52). Christopher discloses when the physical circumstances of the terminal, that cause the terminal to request a cell change frequently (high handover frequency), and large cell scheme allocated in order to

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reduce the number of handovers (column 8, lines 23-25) Fig. 8 step 810 at K1 (column 9, lines 34-41). Christopher discloses when the physical circumstances of the terminal, that cause the terminal to request a cell change determined due to terminal position from the base station 104 (column 9, lines 15-23), which causes the transmitted signal from the terminal (a forward common channel) low as the terminal moves away from the base station (the maximum reception power value becomes low) which implies the terminal is fading out, Fig. 8 step 810 at K2. If the output is YES (the request is satisfied) to the FDD and TDD, Christopher proceeds to determine the preferred duplexing method step 810. Depending on the output of the step 810, Christopher proceeds (condition is satisfied) to either assign FDD or TDD duplexing method step 812 (assigns the FDD method) (column 10, lines 34-41).

As to claims 3, 5, 29 and 31, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for judging and a means for assigning the channel). Christopher discloses a communication apparatus illustrated in Fig. 8. Upon receiving a request for service (request for channel assignment), step 802 determines if the cellular telephone has TDD and FDD duplexing schemes (whether a condition exists to make it is possible to assign both a channel for a service area based on a FDD and a TDD method) (column 8, lines 51-52).

Christopher discloses when the physical circumstances of the terminal that causes the terminal to request a cell change not frequently (low handover frequency) which implies the terminal is not moving out of the current service area, and the terminal position remains the same Fig. 8 step 810 at K2 (column 9, lines 34-41) (column 8, lines 14-26).

Christopher discloses when the physical circumstances of the terminal, that causes the terminal to request a cell change, is determined due to the terminal position from the base station 104 (column 9, lines 15-23), which causes the transmitted signal from the terminal (a forward common channel) high as the terminal moves toward the base station (the maximum reception power value becomes high) Fig. 8 step 810 at K2. If the output is YES (the request is satisfied) to the FDD and TDD, Christopher proceeds to determine the preferred duplexing method step 810. Depending on the output of the step 810, Christopher proceeds (condition is satisfied) to either assign FDD or TDD duplexing method step 812 (assigns the TDD method) (column 10, lines 34-41).

As to claims 6 and 32, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for judging and a means for assigning the channel). Christopher discloses a communication apparatus illustrated in Fig. 8. Upon receiving a request for service (request for channel assignment), step 802 determines if the cellular telephone has the TDD and FDD duplexing schemes (whether a condition exists to make it is possible to

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assign both a channel for a service area based on a FDD and a TDD method) (column 8, lines 51-52), and Christopher discloses a means to determine the preferred duplexing scheme according to the type of service requested (type of communication related to the request) by the terminal Fig. 8, K3 and K4 (column 9, lines 15-40). If the output is YES (the request is satisfied) to the FDD and TDD, Christopher proceeds to determine the preferred duplexing method step 810. Depending on the output of step 810, Christopher proceeds (condition is satisfied) to either assign FDD or TDD duplexing method step 812 (column 10, lines 34-41).

As to claim 7, Christopher discloses the channel assigning method as claimed in claim 6, wherein said assigning step assigns the channel for the service area based on the FDD method to said request, if said type of communication is voice communication and said condition is satisfied (implicitly taught because FDD systems are better suited to handle low to moderate data rates such as voice), and assigns the channel for the service area based on the TDD method to said request, if said type of communication is data communication and said condition is satisfied (implicitly taught because TDD systems are better suited to handle asymmetrical traffic with high data rate).

As to claims 8, 10, 12, 14, 18, 33, 35, 37, 39, and 43, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for detecting and a means for switching the assigned channel). Christopher discloses a communication apparatus illustrated in Fig.

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8. Upon reaching step 814, information regarding the terminal's duplexing scheme is assigned, it s updated every time a duplexing scheme changes (column 9, lines 3-6), hence step 802 determines (detects) if the cellular telephone has already assigned the TDD or FDD duplexing schemes by analyzing a system database (for a service area based on a TDD method that is currently assigned) (column 8, lines 51-52).

Christopher discloses when the physical circumstances of the terminal, that cause the terminal to require a cell change (service area) frequently (high handover frequency), and large cell scheme allocated (switched) in order to reduce the number of handovers (column 8, lines 23-25) Fig. 8 step 810 at K1 (column 9, lines 34-41).

Christopher discloses the microprocessor 200 of the base station104, which determines a preferred duplexing scheme (FDD method) if there is an interference (a high transmission power) in the system (column 9, lines 24-25).

Christopher discloses the physical circumstances of the terminal at K1, K2 in Fig. 8, as illustrated in Fig. 9. Depending on the output of step-930 (the output of 930 is less than threshold value, NO) (power of a forward common channel is low) the microprocessor 200 of the base station104 determines a preferred duplexing scheme (FDD method).

Christopher discloses determining the type of service required by the terminal, asymmetry K4 (column 8, lines 20-22).

Christopher discloses assigning a TDD method for asymmetrical data traffic (unbalance reverse and forward traffic), and assigning an FDD method for symmetrical data traffic (balance reverse and forward traffic), disclosed indirectly. Christopher

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discloses determining the type of service required by the terminal Fig. 8 at K4, and if the data traffic is symmetric (a particular communication), a favorable duplexing scheme is FDD method (column 8, lines 20-22).

Christopher proceeds to switch the preferred duplexing method step 810.

Depending on the output of step 810, Christopher proceeds to either assign FDD or TDD (assigns FDD method) duplexing method step 812 (column 10, lines 34-41).

As to claims 9, 11, 13, 15, 20, 34, 35, 38, 40, and 44, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for detecting and a means for switching the assigned channel). Christopher discloses a communication apparatus illustrated in Fig. 8. Upon reaching step 814, information regarding the terminal's duplexing scheme is assigned; it receives updates every time a duplexing scheme changes (column 9, lines 3-6), hence step 802 determines (detects) if the cellular telephone has already assigned the TDD or FDD duplexing schemes by analyzing a system database (for a service area based on a FDD method is currently assigned) (column 8, lines 51-52).

Christopher discloses when the physical circumstances of the terminal, that cause the terminal to request a cell change not frequently (low handover frequency) which implies the terminal is not moving out of the current service area, and smaller cell scheme allocated (switched) in order to allocate or increase system capacity (column 7, lines 53-56).



Christopher discloses the microprocessor 200 of the base station 104, which determines a preferred duplexing scheme (TDD method) if the base station asks the terminal to increase the transmission power while in FDD method; the threshold for interference increases, so the microprocessor 200 determines the preferred schemes (TDD method) without changing the transmission power level (a low transmission power) in the system (column 9, lines 24-25).

Christopher discloses the physical circumstances of the terminal at K1, K2 in Fig. 8 as illustrated in Fig. 9. Depending on the output of step-930 (the output of 930 is greater than threshold value, YES) (power of a forward common channel is high) the microprocessor 200 of the base station 104 determines a preferred duplexing scheme (TDD method).

Christopher discloses determining the type of service required by the terminal, asymmetry K4 (column 8, lines 20-22). Christopher discloses assigning TDD method for asymmetry data traffic (unbalance reverse and forward traffic).

Christopher discloses determining the type of service required by the terminal Fig. 8 at K4, and if the data traffic is asymmetric (a particular communication), a favorable duplexing scheme is TDD method (column 8, lines 20-22).

Christopher proceeds to switch the preferred duplexing method step 810. Depending on the output of step 810, Christopher proceeds to either assign FDD or TDD (assigns TDD method) duplexing method step 812 (column 10, lines 34-41).

As to claim 19, Christopher discloses a channel assigning method as claimed in claim 18, wherein said particular type of communication is voice communication

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(implicitly taught because FDD systems are better suited to handle low to moderate data rates such as voice).

As to claim 21, Christopher discloses a channel assigning method as claimed in claim 20, wherein said particular type of communication is data communication (implicitly taught because TDD systems are better suited to handle asymmetrical traffic with high data rate).

As to claim 22, Christopher discloses voice traffic that needs balanced duplexing scheme (symmetric traffic high); FDD method is favorable (column 8, lines 14-22).

As to claim 23, Christopher discloses data traffic that needs unbalanced duplexing scheme (asymmetric traffic high); TDD method is favorable (column 8, lines 14-22).

As to claims 24 and 45, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for detecting and a means for switching the assigned channel). Christopher discloses a communication apparatus illustrated in Fig. 8. Upon reaching step 814, information regarding the terminal's duplexing scheme is assigned, and it is updated every time a duplexing scheme changes (column 9, lines 3-6), hence step 802 determines (detects) if the cellular telephone has already assigned the TDD or FDD duplexing schemes by analyzing a system database (for a service area based on a TDD method is currently assigned) (column 8, lines 51-52). After determining the current

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assigned duplexing scheme (TDD method), Christopher discloses determining the interference in the system Fig. 8 at K6, K7, and assigning the preferred duplexing scheme according to step 812 (column 9, lines 24-40) which is to say, if the threshold level for interference in the system is unacceptable (high interference), a favorable duplexing scheme is the FDD method (column 8, lines 20-22). Christopher proceeds to switch the preferred duplexing method step 810. Depending on the output of the step 810, Christopher proceeds to allocate either FDD or TDD (switching the assigned channel to FDD method) duplexing method, step 812 (column 10, lines 34-41).

As to claims 25 and 46, Christopher discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station (Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for detecting and a means for switching the assigned channel). Christopher discloses a communication apparatus illustrated in Fig. 8. Upon reaching step 814, information regarding the terminal's duplexing scheme is assigned, and it is updated every time a duplexing scheme changes (column 9, lines 3-6); hence step 802 determines (detects) if the cellular telephone has already assigned the TDD or FDD duplexing schemes by analyzing a system database (for a service area based on a TDD method is currently assigned) (column 8, lines 51-52). After determining the current assigned duplexing scheme (FDD method), Christopher discloses determining interference in the system Fig. 8 at K6, K7, and assigns the preferred duplexing scheme according to step 812 (column 9, lines 24-40) which is to say, if the threshold level for

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interference in the system is unacceptable (high interference), a favorable duplexing scheme is the TDD method (column 8, lines 20-22). Christopher proceeds to switch the preferred duplexing method step 810. Depending on the output of step 810, Christopher proceeds to allocate either FDD or TDD (switching the assigned channel to TDD method) duplexing method step 812 (column 10, lines 34-41).

As to claim 26, Christopher discloses the channel assigning method, wherein the FDD method is a CDMA-FDD (column 2, lines 53-55) and the TDD method is a CDMA-TDD (column 2, lines 53-55).

As to claim 47, Christopher discloses the communication apparatus as claimed in any one of claims 27-46, wherein said communication apparatus (Fig. 2) is a control station, which controls a base station (col. 3, lines 24- 34, the base station which is controlled by microprocessor 200, which type of duplexing method to use according to the user information received, is controlled by microprocessor 200).

As to claim 48, Christopher discloses the communication apparatus as claimed in any one of claims 27-46, wherein said communication apparatus is a base station (Fig. 1, base station 104; col. 3, lines 24-34, base station 104 comprises the apparatus in Fig. 2).

### ***Allowable Subject Matter***

3. Claims 16, 17, 41,42 allowed.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zewdu Habte whose telephone number is 571-272-

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3115. The examiner can normally be reached on 8:30-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zewdu Habte (Zed)  
Examiner  
Art Unit 2661

ZH

March 7, 2005

  
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SUPERVISORY PATENT EXAMINER  
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3/7/05